STATE OF WISCONSIN

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JOINT COMMITTEE ON FINANCE

MEMORANDUM

To: Members
Joint Committee on Finance

From: Senator Mark Miller
Representative Mark Pocan

Date: August 31, 2010

Re: University of Wisconsin System Report to JFC

Attached is a report on purpose, duration, cost and anticipated completion date of all research and public service projects for which it is expending general purpose revenues from the University of Wisconsin System, pursuant to s. 36.45(3), Stats.

This report is being provided for your information only. No action by the Committee is required. Please feel free to contact us if you have any questions.

Attachments

MM:MP:jm

UNIVERSITY OF WISCONSIN SYSTEM

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August 31, 2010

To: Governor Jim Doyle
Senator Mark Miller, Co-Chair, Joint Committee on Finance
Representative Mark Pocan, Co-Chair, Joint Committee on Finance

From: Kevin P. Reilly, President
University of Wisconsin System

Subject: Research and Public Service Report

S. 36.45(3) of the Wisconsin Statutes requires the University of Wisconsin System to report biennially to the Governor and the Joint Committee on Finance the purpose, duration, cost, and anticipated completion date of all research and public service projects for which it is expending general purpose revenues. Please find this report attached for your consideration.

If you require any additional information regarding this report, please contact Senior Vice President for Academic Affairs Rebecca Martin (608-262-8778).

Enclosure

cc: UW Board of Regents
UW Chancellors
Rebecca Martin, Senior Vice President
Deborah Durcan, Vice President
Freda Harris, Associate Vice President
Larry Rubin, Associate Vice President
Bob Hanle, Department of Administration
Dennis Rhodes, Department of Administration
Dave Loppnow, Legislative Fiscal Bureau
Emily Pope, Legislative Fiscal Bureau

UNIVERSITY OF WISCONSIN SYSTEM

2010 PUBLIC SERVICE REPORT

UNIVERSITY OF WISCONSIN SYSTEM PUBLIC SERVICE

I. OVERVIEW

The University of Wisconsin System's 2009-10 GPR public service budget was $75.3 million (Table 1). UW-Extension's budget accounts for the majority of the public service funding (68.6%). The University's budget for extension and public service activities in FY 2009-10 included $1,847,889 for special legislated projects, and $73,455,900 for ongoing programs. This report covers direct public service activities and excludes other activities (e.g. institutional support, research, physical plant, etc.) that are in support of public service.

TABLE 1
PUBLIC SERVICE GPR FUNDING BY INSTITUTION
2009-2010 FISCAL YEAR

Madison	$	17,921,173	23.8%
Milwaukee	$	2,544,271	3.4%
Comprehensives and Colleges	$	3,006,161	4.0%
Systemwide	$	185,492	0.2%
Extension	$	51,646,692	68.6%
Totals	$	75,303,789	100.0%

Extension faculty and staff, who are physically located on every campus of the UW System and in county extension offices throughout the state, develop and teach extension programs. To fulfill its mission, UW-Extension develops statewide plans and priorities based on the emerging needs affecting individuals, families, labor, business, agriculture, youth, the environment, the economy, communities, the professions, and senior citizens. Planning involves faculty and staff, public representatives, cooperating agencies, and clientele groups. These plans are the basis for reallocating base funds from lower to emerging higher priorities. UW-Extension also meets the needs of public service through legislated projects. Appendix 1 illustrates the 2009-10 legislated projects.

The four UW-Extension programming units develop operating budgets including base funding and legislated or other special projects. The programming units are:

- Cooperative Extension
- Continuing Education, Outreach and E-Learning
- Broadcasting and Media Innovations
- Entrepreneurship and Economic Development

Appendix 2 details the planning processes of each UW-Extension division.

II. UW-EXTENSION MISSION

Through the University of Wisconsin-Extension, all Wisconsin people can access university resources and engage in lifelong learning, wherever they live and work.

Fundamental to this mission are UW-Extension's partnerships with the 26 UW campuses, the county and tribal governments, and other public and private organizations. Fulfilling the promise of the Wisconsin Idea, UW-Extension extends the boundaries of the university to the boundaries of the state and helps the university establish mutually beneficial connections with all its stakeholders.

For millions of Wisconsin individuals, families, businesses, and communities, UW-Extension is the doorway to their public university, enabling them to:

- Achieve personal growth, professional success, and organizational effectiveness through formal and informal learning;
- Address the changing needs of the state and society by applying relevant university research; and
- Gain greater access to educational, cultural, and civic resources through the use of technologies.

In addition, UW-Extension supports the University of Wisconsin System mission by:

- Providing strong leadership for the university's statewide public service mission;
- Integrating a scholarly approach to outreach across many academic disciplines; and
- Addressing the specific educational needs of under-served, disadvantaged, and non-traditional students.

III. THE RELATIONSHIP BETWEEN BASE PROGRAM FUNDS AND SPECIAL LEGISLATED PROJECT FUNDS

Investments in base program funds are constantly re-examined within UW-Extension to meet emerging priority needs defined through regular planning and priority-setting processes, as well as through special projects. In addition, program changes are made as faculty annually evaluate and refocus their program emphases and directions as described in Appendix 2. Both these means are essential for extension programs to remain relevant and responsive.

Sometimes, however, base reallocations are not sufficient to meet emerging priority needs associated with new legislation, societal change, and critical new issues. In these cases, special project funds are requested to support emerging priorities that require funding beyond the institution's capacity to respond through base reallocation. Often, ongoing programs basic to core activities must be sustained, faculty talents in a high-priority field may be fully committed and unavailable for reallocation, or new faculty expertise and skills may be required.

Usually, the issues and needs requiring legislated special-project funding are of such magnitude that they require long-term programming. For example, innovative programs in Water Quality, Waste Management, Sustainable Agriculture, and Manufacturing Technology Transfer, all of which emerged as critical priority issues in the 1980s, required long-term investments in sustained educational programs that made a significant impact over time. Just as base programs are not static, programs in legislated special project areas change to address emerging issues. For example, in Dairy Profitability, priority emphases at any given time may fluctuate from milk quality to marketing orders to input cost reductions.

Legislated special project funding is only part of a long-term commitment to sustain high-priority initiatives. UW-Extension reallocates base funds to augment legislated special-project funding for new programs, and integrates special projects with base programs to assure they are part of ongoing statewide educational efforts. Uniting legislated special projects with base programs assures better identity and acceptance, access, continuity, and stewardship of financial and personnel resources. Legislated special-project funds remain committed to the programs for which they were allocated and retain their budget and program identity, however special projects do not stand alone. They become part of a comprehensive educational program accessible to people throughout the state and adaptable to local needs.

Appendix 3 describes and links UW-Extension's legislated and other special projects to the institution's base program areas.

APPENDIX 1
UNIVERSITY OF WISCONSIN SYSTEM
PUBLIC SERVICE LEGISLATED PROJECTS
2009-10 FISCAL YEAR

PROJECT TITLE	ALLOCATION
COOPERATIVE EXTENSION:	**$1,082,361**
Community Economic Analysis	84,297
Center for Economic Development	129,772
Rural Development Institute	22,725
Biotechnology Education (BioTrek)	83,849
Farm Financial Management	83,682
Dairy Profitability Center	250,770
Program on Agricultural Technology Studies	82,366
Nutrient & Pest Management	278,032
Local Planning Grant	66,868
CONTINUING EDUCATION, OUTREACH AND E-LEARNING:	**$765,528**
Minority Entrepreneurship	87,887
School for Workers	205,813
Manufacturing Technology Transfer	199,980
Educational Technology	86,305
Solid and Hazardous Waste Education	185,543
UNIVERSITY OF WISCONSIN SYSTEM TOTAL:	**$1,847,889**

APPENDIX 2
UW-EXTENSION PLANNING & BUDGETING PRACTICES

To meet its mission responsibilities, UW-Extension leads the development of statewide plans that provide the policy framework for identifying program needs, assigning relative priorities, and making budget allocations and reallocations. The institution's program planning and budget guidelines link programs, budgets, and changes. Each UW-Extension division follows an internal budget and program-planning process within this institutional model.

A. Cooperative Extension

Cooperative Extension plans on a five-year cycle, with 2009 to 2013 being the current cycle. Planning involves faculty and staff, public officials, business, labor, cooperating governmental agencies, agriculture and agri-business, and other citizen representatives. The five-year plan defines community-based priorities and special needs. These needs are correlated with personnel and fiscal resources, with reallocations made where appropriate. Some reallocations involve no budget modifications, as faculty and staff shift their programmatic direction. Other changes involve both budget and position reallocation to support the changing needs identified in the strategic plan.

B. Continuing Education, Outreach and E-Learning

Continuing Education, Outreach and E-Learning reallocates resources annually in a priority framework, defined by the strategic plan it develops every five years. In 2005, Continuing Education, Outreach and E-Learning and the Continuing Education Extension Council (CEEC), composed of the continuing education deans and directors from each UW institution, began working on the division's five-year strategic plan. The strategic plan, "Addressing Critical State Needs" was completed and published in March 2006. The deans and directors at the institutions agreed on the shared vision and directions that will enable them to develop campus-specific five-year plans that align with the statewide strategic plan. While allowing for planning to occur at the institutional level, the statewide plan serves as the overarching direction for programs, services, and partnerships. The division's commitment to lifelong learning is based on the belief that its clients can best meet the challenges of success today if they have opportunities for learning throughout their life spans. On an annual basis, Continuing Education, Outreach and E-Learning uses an interactive process in the development of inter-institutional budgets to initiate, define, and discuss changes to ongoing programs or to meet emerging needs.

C. Broadcasting and Media Innovations

Strategic planning in Broadcasting and Media Innovations differs in its approach, but not in its objectives, compared to other UW-Extension divisions. This division works

closely with its partner in Wisconsin public broadcasting, the Wisconsin Educational Communications Board (ECB), to define strategic direction in educational areas and to define regional programming needs throughout Wisconsin. The Division continuously evaluates the effect of programming through audience surveys and other methodologies. It also responds to demands for programming support, delivery outlets, and production facilities by faculty and staff of the UW System. Detailed programming is scheduled annually, as educational, instructional, and cultural programs are modified to meet public and professional priorities. Resources are moved annually from lower to higher priority programs.

D. Entrepreneurship and Economic Development

Entrepreneurship and Economic Development (DEED) resources are distributed based on input from staff, partners, and key stakeholders and reflect division- and program-specific requirements and strategic plans. Strategic plans emphasize access to counseling, business assistance, and educational programs for entrepreneurs and business owners. DEED acts as host to several entrepreneurial advancement programs, including the Small Business Development Centers (SBDC), partially funded by SBA, and the Wisconsin Entrepreneurs' Network (WEN), partially funded by the Wisconsin Department of Commerce. Program and staff allocations across the state are based on the requirements of these programs. Match funds come from UW-Extension at the state and divisional level, and UW System throughout the state at each campus location.

APPENDIX 3
PROGRAMS AND SPECIAL PROJECTS
UW-EXTENSION PROGRAMS AND LEGISLATED PROJECTS

I. OVERVIEW

Each of UW-Extension's divisions divides its activities among broadly defined program areas. Cooperative Extension and Continuing Education, Outreach and E-Learning have special legislated projects, which complement these divisions' program thrusts. This appendix briefly describes the divisions' major program areas and identifies any special legislated projects associated with each.

II. COOPERATIVE EXTENSION

Cooperative Extension's faculty and staff develop programs to help people understand and use knowledge and research from the University. Its county staff, supported by designated faculty and staff of UW System institutions who have collaborative appointments with UW-Extension, bring university resources to meet local needs. Institution-based faculty and staff conduct applied research and interpret knowledge in their specialties through programs and activities coordinated by UW-Extension, and teach in collaboration with county faculty and staff. Cooperative Extension has four program areas.

A. Community, Natural Resources, and Economic Development (CNRED)

CNRED programs help people set goals, make decisions, and develop sound local public policies; build strong communities and neighborhoods; strengthen local economies; provide good jobs and essential services; and balance economic growth and environmental quality issues. Special projects in this program are:

- **Community Economic Analysis:** A joint project of UW-Madison and UW-Extension ($84,297 GPR), provides information and analysis concerning the economic characteristics and structure of Wisconsin communities to University faculty and staff, county-based community faculty, area agents and community representatives working on economic development issues. Project funds support community development specialists who collect and analyze information, prepare graphs, overheads, and other educational materials, and work with Extension faculty in program delivery. The need for this support will continue because there is a great demand for up-to-date information from Wisconsin communities that are facing issues affected by the dynamics of the local, state, national, and international economies.

- **Regional Center for Economic Development:** This effort involves three projects at the UW-Superior Center for Economic Development ($129,772 GPR), and the UW-River Falls Rural Development Institute (UW-Extension $22,725 GPR). Each project provides resources that support regional economic development activities. These programs complement those funded with ongoing resources, providing a

regional network of support for community development. This combination of ongoing and special-project funding supports research and program delivery capabilities beyond those supported by special project funds, demonstrating the synergistic relationship between special projects and core programs.

- **Local Planning Grant:** In FY 2000, the legislature allocated funding to support the development of two model ordinances by UW-Extension, as required in the state's "Smart Growth" legislation. Today, $66,868 is used to support two land use specialist positions (one at UW-River Falls and one at UW-Stevens Point).

B. Agriculture and Agribusiness

The Agriculture and Agribusiness Program Area provides research-based information, alternatives, and decision aids to producers and agribusiness entrepreneurs to: improve their profitability and competitive position in the global marketplace; provide, produce, and distribute an adequate supply of high quality food and fiber; enhance and protect the environment including soil and water resources; and develop effective public policies for agriculture. Four special projects illustrate the dilemmas involved in prioritizing the use of limited resources among competing demands for internal funding, which have required reallocation from existing educational programs that support Wisconsin's agricultural economies.

- **Farm Financial Management**: The Farm Financial Management project ($83,682 GPR) is a joint activity of UW-Extension and UW-Madison which analyzes the many factors affecting the financial performance of Wisconsin farm businesses. This information provides farmers, educators, public policy-makers, legislators, and other agricultural professionals with a better understanding of why some farm businesses compete successfully and survive, while others do not. The initial project focused on utilization of the records of the Farm Credit System of St. Paul. Data variation demonstrated a continuing need to understand how changing factors such as farm business size, short, intermediate, and long term debt position, resource allocation efficiency, and owner's managerial skill can affect the profitability, solvency, and liquidity characteristics and performance of Wisconsin farm businesses. The project has expanded to a cooperative venture with the Center for Dairy Profitability in focusing on dairy farms in Wisconsin by including farm record association data. The project continues to gather, analyze, and distribute information for use by county agents, specialists, other policy-makers, and professional educators in their educational programs to clientele throughout the state. The dynamics of the international, national, and state economies, and the resulting changing conditions in Wisconsin place new challenges on farm managers and educators. As the information changes, so this special project continues to change with its goals and objectives redefined to meet contemporary needs for public policy information.

- **Center for Dairy Profitability:** The Center for Dairy Profitability ($250,770 GPR) is a joint project among UW-Extension, UW-Madison, UW-Platteville, and

UW-River Falls, that provides faculty and program resources to enhance and augment ongoing programs supporting Wisconsin's dairy industry. It has developed linkages with Wisconsin state agencies, several states, and several educational programs. The Center now delivers interdisciplinary programs that emphasize integrated production, financing, marketing, and management systems. These ongoing programs assist farmers and the dairy industry to maintain and enhance their national and international competitiveness. Continuing resources have supported dairy modernization (UW-Extension), farm electrification/milking systems/engineering (UW-Madison), dairy farm financial management (UW-River Falls), and dairy beef and veal production and marketing (UW-Platteville).

The Center's educational programs have evolved to focus on farm accounting (AAIMS program) and real-time database management (AgFa). Several spreadsheet-based management decision aids have been constructed, disseminated largely through the Center's heavily accessed web page. Emerging issues related to modernizing Wisconsin dairies, siting of concentrated animal feeding operations (CAFO's), and managing price risk will require continued project activities to address related private and public concerns.

- **Program on Agricultural Technology Studies (PATS):** This program is a special project of UW-Madison and UW-Extension. Formerly the Agricultural Technology and Family Farm Institute, PATS was created in 1997 to refocus activities in light of the sharp reduction in state funding that occurred in fiscal year 1996. PATS ($82,366 GPR) continues to identify and evaluate factors that affect the economic viability of family-sized farms in Wisconsin, and to design and deliver outreach programs that help Wisconsin citizens understand the relationship between farming and rural economic development. Through its biennial survey of Wisconsin farmer attitudes with respect to farm and rural public-policy issues, PATS has become a highly respected source of objective information for policy analysts and legislators. Using its reduced state funding to leverage state and federal grants, PATS has expanded its activities to include research and outreach on animal waste management, property tax reform, management-intensive rotational grazing, and land use. The unit maintains extensive databases on rural trends and conditions, and designs customized materials for county UW-Extension faculty and staff to use in local educational offerings.

- **The Nutrient and Pesticide Management Program**: Special projects supported by the Nutrient and Pesticide Management Program ($278,032 GPR) provide educational programs and foster the exchange of information within the University and across agricultural businesses and communities. The NPM program links research and Extension programs, as well as research and Extension faculty, with farmers, agribusinesses, and rural communities in developing site-specific solutions to problems involving soil fertility, nutrient management, manure management, sludge management, weed, insect and plant disease, pest control, and water quality. While over 21 crops, grown in major acreage in Wisconsin, have benefited from the NPM program, most potato and cranberry crops rely on efforts associated with Integrated Pest Management (IPM) Programs. New IPM efforts with greenhouse

production and facilities also focus on employee health. The need is ongoing as the array of nutrients, crops, and pesticides continue to evolve.

C. Family Living Programs

Family Living Programs educate families so that they are capable of making informed decisions and avoid potential problems they may face. Education programs are designed based on current research and adapted to target the unique needs of families across the state and nation. The programs include areas such as:

- Access to Affordable Housing;
- Building Community Connections with Families;
- Healthy Families and Communities;
- Eating Well and Being Active;
- Aging in Our Communities and Family Caregiving;
- Family Financial Education;
- Families in Stress and Transition;
- Parenting Education;
- Poverty and Food Insecurity; and
- Healthy Couple Relationships.

In addition to the focus on the above issues, a public-service legislated project, the Biotechnology Education Outreach Program (BioTrek) is a joint project of the UW-Madison Biotechnology Center and the Family Living Programs of UW-Extension. BioTrek engages the public in the outreach mission of the University by providing tours and workshops at the Biotechnology Center on the UW-Madison campus, and workshops across Wisconsin. The mission is "Sharing Science with Wisconsin." The goal is to transform how people view and do science, and to better enable people to use science in making personal choices and public policies. The biotechnology project utilizes UW-Madison and UW-Extension special-project resources of $83,849 GPR.

Family Living Programs also offers conferences open to the public and family-focused professionals, including: UW-Extension College Days; Grandparents University (together with the Wisconsin Alumni Association); a Home Visitation Conference for parent educators and home visitors; Through the Eyes of a Child for grandparents raising grandchildren; and an annual Nutrition Issues Conference for dieticians and other health professionals.

D. 4-H Youth Development

4-H Youth Development Programs work with and through community volunteers, organizations, and schools, to offer educational programs that engage young people in educational projects, events, activities, and clubs; identify and minimize the sources of risk facing young people; help young people make contributions to family and

community life; and train volunteer leaders. There are no special legislated project funds in this area.

III. CONTINUING EDUCATION, OUTREACH AND E-LEARNING

The University of Wisconsin-Extension's Continuing Education, Outreach, and E-Learning division provides continuing education and e-learning programs, services, and support to the 26 UW campuses and a wide variety of corporate and non-profit partners. In conjunction with the 13 two-year and 13 four-year UW campuses, Continuing Education, Outreach and E-Learning is a lifelong learning partner for more than 200,000 people each year from the 72 counties across Wisconsin, all 50 states, and 104 countries around the world. Each institution/campus, with its select mission, as well as array of program and degree entitlements, offers educational programs and services to meet constituent need. The division acts in concert with its partners to achieve mutually identified goals and objectives that reflect the synergy generated by the diverse spectrum of resources operating at institutional, collective, and statewide levels in meeting the needs of lifelong learners.

"Addressing Critical State Needs," the divisional statewide strategic plan, identifies five divisional priorities. Continuing educators will:

A. Advocate for lifelong learning;
B. Collaborate effectively and creatively;
C. Integrate technology and practice;
D. Practice entrepreneurial fiscal management; and
E. Assess the impact of programs, services, and partnerships.

A. Advocate for Lifelong Learning

Adult Student Initiative ($879,690)
Recent data has shown Wisconsin lags behind both the national average and nearby states in terms of the number of adults with bachelor's degrees. At the same time, Wisconsin is above the national average in the number of adults holding associate degrees. There is, therefore, a substantial learner's market for a baccalaureate degree completion initiative in the state. The University of Wisconsin System has many needed undergraduate degrees in a face-to-face format and some degrees are already available in more accessible formats.

Considering these factors, the Division of Continuing Education, Outreach and E-Learning launched its Adult Student Initiative. The goal of the project is to involve as many campuses as possible in expanding the number of quality distance-delivered, undergraduate degree-completion programs for the residents of Wisconsin. This involves not only developing new, high-demand, accessible degree programs but also promoting the effort through statewide marketing and advising, and increasing use of the Prior Learning Assessment systemwide.

As part of the Adult Student Initiative, Continuing Education, Outreach and E-Learning created the Strategic Program Development Initiative (SPDI). Designed to provide three years of start-up funding for new programs, the SPDI supports the development of online

and/or hybrid undergraduate upper-division course sequences in existing degrees that ultimately lead to a baccalaureate degree. The division has provided start-up funding for eight new degree-completion programs through this initiative:

- Bachelor of Applied Studies in Fire and Emergency Response Management (UW-Oshkosh);
- Bachelor of Science in Human Services Leadership Online (UW-Oshkosh);
- Bachelor of Liberal Studies in Organizational Administration Online (UW-Oshkosh);
- Bachelor of Communication Arts (UW-Superior);
- Bachelor of Science in Community Education with an emphasis in Child Care (UW-Milwaukee);
- Bachelor's degree in Information Systems and Project Management (UW-Parkside);
- Bachelor of Science in Career, Technical Education and Training (UW-Stout); and
- Bachelor of Science in Criminal Justice (UW-Platteville).

Bachelor of Science in Sustainable Management ($332,000)

The Bachelor of Science in Sustainable Management is a 63-credit online bachelor's degree completion program. It is offered collaboratively by four University of Wisconsin campuses: UW-Parkside, UW-River Falls, UW-Stout, and UW-Superior. The Bachelor of Science in Sustainable Management received Board of Regents approval in May 2009. The degree is entirely online and courses are offered with faculty from the partner campuses. There are 21 courses in the degree program and a student must take all 21 to earn the degree. The degree completion program provides the knowledge and skills students need to create profitable businesses, vibrant communities, and a healthy environment for Wisconsin, the United States, and the world.

Students who have completed the first two years of a bachelor's degree or have completed at least 60 credits of transferable coursework with a minimum GPA of 2.0 may apply directly to the program. If students need to complete the first two years, they may do so through UW Colleges Online, at any of the 26 UW campuses, or (if approved) at other colleges or universities in Wisconsin or the United States.

The Bachelor of Science in Sustainable Management is an interdisciplinary program that helps students gain a broad understanding of the ways in which business systems, natural systems, and social systems intersect. The curriculum includes courses in:

- Environmental studies;
- Triple bottom line accounting;
- Natural resource management;
- Information systems; and
- Logistics, supply chain management, and sustainability.

With a Bachelor of Science in Sustainable Management, students will be qualified to help businesses develop sustainable practices for a global marketplace, while still helping to preserve natural resources and strengthen communities.

The program has been very well received and to date there have been 395 individual course enrollments and developed ten new courses. There are three more new courses opening for summer. Many of the courses have already needed multiple section offerings due to high

enrollment. Two undergraduate certificate programs are now being offered as well: Sustainable Enterprise Management Certificate (15 credits) and Sustainable Management – Science (12 credits).

Bringing stopped-out students back to the University through targeted marketing and advising ($74,271)
While the majority of students who enroll in college complete their degrees on schedule, a number of students do "stop-out" and do not complete a degree. Working with UW System campuses, UW-Extension's Continuing Education, Outreach and E-Learning gathered information on formerly enrolled, degree-seeking undergraduate students who did not complete their degree. This contact information was used to reach out to more than 48,000 former UW System students.

Students who had not re-enrolled were encouraged to return to the UW System to complete their degree. As a result of this personalized recruitment and advising over the last few years 3,937 new applications were submitted by former students to UW System campuses and 2,027 former students enrolled on UW campuses. It is even more important to note that over the last four years, 507 bachelor's degrees and 90 associates degree have been awarded to former UW System students who returned to earn their degrees with the assistance of this effort.

STEM (Science, Technology, Engineering and Math) ($16,000)
UW Colleges/Colleges Online, UW-Platteville, UW-Stout and UW-Parkside and initially Gateway Technical College are collaborating to provide access to a Technology Educator degree completion. This agreement will provide a path for people interested in becoming Technology Education teachers while staying in their local communities. Students can complete the first two years of the Technical Education degree at their local technical college, earn required general education courses through UW Colleges/Colleges Online and the remaining course work through UW-Platteville and UW-Stout Technical Education programs with the assistance of UW-Parkside with clinical experiences. It is the goal of the group to provide the second two years as on-line coursework by the UW partners. While the initial collaboration will be with Gateway Technical College, the consortium hopes to expand and enable other Technical Colleges who have similar programs to offer this option to their students.

By making as much as possible of the curriculum available online, pathways to degree completions will be created for place bound students. However, there may be occasions when a face-to-face component is required. In these instances, efforts will be made to make those experiences available at the local level and manage the amount of time that a student would have to spend "on-campus" to a reasonable level.

Minority Entrepreneurship ($87,887)
The Minority Entrepreneurship Program at UW-Milwaukee provides real world, practical education for minority clients and others who are interested in operating or starting their own businesses. These courses, which cover the basic components of successful business ventures, are delivered on-site in minority communities, using practitioners (such as bankers, marketing specialists, accountants, business attorneys, and human resource managers) who can relate

their experiences and the problems they have encountered to others considering business ventures.

School for Workers (SFW)
The Division has continued financial support of the UW-Extension School for Workers, a labor education unit. SFW is the oldest university-based labor education program in North America, founded in 1925. One of the first operational components of the "Wisconsin Idea", the School, its faculty and staff, have long brought these three components--teaching, research, and outreach--to thousands of workers, unions, and employers throughout Wisconsin, the nation, and the world.

SFW runs approximately 150 programs each year, which involve more than 4,000 union representatives, officers, members, and employer representatives. SFW offers a wide range of programs ranging from one-hour presentations, to evening community classes, to two- or three-day conferences, to week-long residential institutes at the J.F. Friedrick Center in Madison, to multi-day labor-management facilitations involving a wide range of subjects. SFW faculty also provide a wide range of applied research and technical assistance services.

As just one example of its work, School for Workers is working with the Wisconsin Department of Health and Family Services' Bureau of Occupational Health to create educational materials, an awareness video, and a web site on bioterrorism and emergency preparedness.

B. Collaborate Effectively and Creatively

Diversity Program Development Initiative (DPDI)
For ten years the division of Continuing Education, Outreach and E-Learning has funded the Diversity Program Development Initiative for innovative and pilot programs that advance UW-Extension's goals for diversity in students, faculty and staff. DPDI has funded 44 programs with sixteen campus Continuing Education and Extension partners and two division units with 85 community partners. Grants totaling $12,535 were awarded to four programs for 2008-09 and to three programs for 2009-10.

2008-09 Recipients:

E-Mentors: Building Connections between Minority Students, their Parents and Science and Math Faculty, UW-La Crosse Continuing Education and Extension ($2,500) Students are matched with UW-La Crosse science and math faculty for ongoing email mentoring. Through these relationships minority students will be encouraged to continue math and science classes and learn about careers in these disciplines. Parents will learn how they can successfully support their children's secondary and higher education. Local minority-serving organizations, the La Crosse School District, and the UW-La Crosse Office of Multicultural Student Services are partners.

Become a Young Entrepreneur, UW-Milwaukee School of Continuing Education ($3,925) The School's College for Teens is partnering with the Boys and Girls Club of Greater Milwaukee, Wells Fargo, and UWM's Small Business Development Center to bring teens hands-on experience in entrepreneurship and information on the educational path necessary

to become a successful business owner. The teens' parents will also be involved in learning about higher education opportunities for business owners.

Diversity and Succession in Wisconsin Unions, UW-Extension School for Workers ($3,750)
The project will develop awareness of the need to build diversity among union leaders and plan for succession while identifying potential union leaders and mentors. Participants will create and implement individual plans for leadership development and create a blueprint for other unions and labor councils to use for the same purpose. The School for Workers is partnering with the Milwaukee Labor Council and AFSCME Council 40.

Spanish-Language Music Classes for Adults, UW-Madison Division of Continuing Studies ($2,360)
Partnering with Centro Hispano of Dane County, this program will offer a new group of Spanish-language music classes for adults in the Madison area for whom Spanish is the primary language. This will offer an opportunity to develop instrumental and/or vocal skills for enjoyment in hopes that they will be able to participate in community-building events.

2009-10 Recipients:

Central City Youth Get SET for Tomorrow ($3,280)
The UW-Milwaukee School of Continuing Education's College for Kids program is partnering with three central city schools/community organizations, United Community Center, United Migrant Opportunity Services and Windlake Elementary School to offer fifth-eighth grade students hands-on experience in science, engineering and technology (SET). Besides providing students with information on the educational path necessary to attain a college degree in these fields, students and families will be exposed to other pre-college programs.

The Dream Team ($3,933)
UW-Rock County's Dream Team pre-college program aims to improve access, retention, and graduation of underrepresented students from Beloit Memorial High School (BMHS) while building relationships among BMHS teachers and UW-Rock County faculty. This year-round program engages first generation, minority students through cohorts or teams in active learning pursuits. A two-week summer camp aims to build self-confidence, leadership skills, and critical thinking skills.

The Power to Get Things Done: Success Strategies for American Women ($3,318)
This UW-Stevens Point Extension project is designed to increase college and career readiness through the integration of American Indian culture for returning adult American Indian women, particularly those who have suffered abusive relationships. The project will be delivered through a series of classes that will be skill-building and self-empowering. Besides presenting an introduction to college opportunities, goals include improving higher education readiness skills, job skills, personal preparedness, and life skills. The partner in this project is the Bad River Tribal Domestic Abuse Program.

UW Continuing EDvantage

To reinforce the critical importance of building Wisconsin's economy, Continuing Education, Outreach and E-Learning is currently funding an expanded statewide economic-development initiative through regional partnerships with education, business, and government. UW Continuing EDvantage projects meet changing education and training needs of adults through lifelong learning and/or support diverse and dynamic communities that attract and retain talented individuals. All projects reinforce regional partnerships with education, business, and government entities. Partnerships receiving start-up funding through this statewide initiative will address a range of workforce development needs and emerging social capital considerations on a regional level. Five projects received funding in the 2008-09 fiscal years:

2008-09 Recipients:

- **UW-La Crosse**
  Learning Communities of Artists: Planning for Profit at a Distance ($21,700)
  This proposal builds on the learning community model that UW-La Crosse has so successfully implemented in the education community and extends it to provide education and management support to artists and arts organizations. The combination of face-to-face meetings with synchronous connections via interactive TV networks and use of the online course management software Desire2Learn will enable students to extend the program's information and services across the state.

- **UW-Madison**
  Manufacturing Excellence in Wisconsin Biotechnology and Biomedical Companies ($16,500)
  A partnership with the Small Business Development Center Technology Business Development Institute and Engineering Professional Development to develop and deliver educational programs to teach an engineered process combining industrial engineering, business tools, and mentoring to help those in biotechnology and biomedical business manage discovery, product development, manufacturing and order fulfillment. Enhancing these capabilities will increase the probability of success and competitiveness of Wisconsin companies.

- **UW-Parkside**
  Facilitating Growth Through Community Dialogues ($24,280)
  The goal of this program was to research and develop approaches to providing facilitation and strategic planning services that could build social and economic capital in the region. The result was that the University provided facilitation services to area school districts, government agencies and nonprofit organizations that leveraged local resources and fostered community development. UW-Parkside's Center for Community Partnerships now has an established cost structure that provides facilitation services to meet community needs through a self-sustaining outreach model.

- **UW-Platteville**
  Southwest Wisconsin's Regional Economic Development Coalition (SWREDC): A New Vision ($15,000)
  Through this program, UW-Platteville will take a leadership role in reestablishing a regional economic development partnership to serve the six county region surrounding Platteville. This funding will help rebuild the partnership with a new model for sustainability that will create synergies among the partners in support of regional economic development.

- **UW-Barron County**
  Organic and Sustainable Agriculture Food Systems as an Economic Development Strategy in Northwest Wisconsin ($24,750)
  This partnership with several agencies, including the UW-River Falls College of Agriculture, Food and Environmental Sciences, Barron County Economic Development Corporation and County Cooperative Extension offices, will provide local farmers and food systems entrepreneurs from four northwestern Wisconsin counties the opportunity to participate in learning tours, mentorships, workshops and a conference that will enhance production and focus on increased sustainability.

Adult Learner Incentive Grants ($19,000)
The University of Wisconsin-Extension Division of Continuing Education, Outreach and E-Learning is recognizing efforts that UW institutions are engaging in to become more welcoming and responsive to the needs of adult students. To encourage institutions in this direction, the division is rewarding those campuses that have achieved significant accomplishments in making their campus and programs more adult friendly. Three campuses will be recognized for their efforts with awards of $2,000, $5,000 and $10,000.

Awards will be based on these criteria:
- Collaborations;
- Involvement of adult students in planning and implementation;
- How the current activity is different from previous practice (what was changed?);
- Measures of campus support; and
- Measureable outcomes (indicators of how adult students have benefitted from the activity(ies).

University of Wisconsin–Eau Claire received first place for instituting a variety of services and programs for returning and active duty military veterans who are students at UW-Eau Claire.

University of Wisconsin-Oshkosh received second place for undertaking more than 18 steps to build campus-wide awareness of the needs of adult students.

University of Wisconsin-Whitewater and UW-Marshfield/Wood County tied for third place. UW-Whitewater was recognized for their efforts to recruit and assist students who started but did not complete an undergraduate degree. UW-Marshfield/Wood County revised a remedial math course to accommodate adult student needs for an accelerated format, online and/or face-to-face format, and self-pacing.

Quality Educator Interactive (QEI) ($39,333)
Wisconsin's new educator licensure requirements (PI 34) expand the framework for professional development, anchoring licensure in the Wisconsin Model Academic Standards. Throughout the career of the educator, this licensure process will reinforce individual responsibility and collegial support as the educator seeks the requisite knowledge and skills designed to enhance student learning. A new Web site developed in partnership by the Division of Outreach and E-Learning, University of Wisconsin System Administration, Wisconsin Education Association Council (WEAC), the WEAC Professional Development Academy, and Association of Wisconsin School Administrators is helping teachers change from the traditional credit-based requirements to the new professional development model.

The Quality Educator Interactive (QEI) helps teachers create, edit, and share professional development plans, and connects them with professional development opportunities statewide. This educator-directed approach to professional development opens up a wealth of choices of activities, resources, and models. In an effort to help educators effectively and efficiently manage their time and professional growth activities, the QEI offers a solution by simplifying these record-keeping demands and connecting educators with the resources they need to manage their own professional growth. The QEI includes an interactive database of professional development opportunities and resources as well as a secure location for educators to house their PI 34 Professional Development Plans (PDPs). It can be found at www.qei.wisconsin.edu.

IDEAS Portal Website ($169,144)
For seven years, the Division of Continuing Education, Outreach and E-Learning has helped connect Wisconsin educators with high quality teacher-reviewed classroom resources all over the Internet. The ide@s Web site (www.ide@s.Wisconsin.edu) is a portal that provides Wisconsin educators access to highly usable, teacher-reviewed web-based resources that help them use technology to meet the Wisconsin Model Academic Standards and create the foundation for a statewide knowledge management system. Ide@s helps teachers integrate technology into PreKindergarten-16 curriculum and helps Wisconsin's educators find online lessons, video, and interactive learning tools. Resources are evaluated and tested by educators and all lesson plans, interactive learning tools, online projects, student resources, and video clips are aligned with the Wisconsin Model Academic Standards.

Ide@s also offers Video ide@s, a searchable video database, that gives K-12 educators in Wisconsin a resource to identify, preview, and present educational video in the classroom. Video content includes physics and chemistry experiments, Wisconsin history, American Indian history and culture, and Get Real science programming. Many of the Video ide@s clips come with teacher and student materials that can be downloaded for classroom use.

In meeting these objectives, ide@s became part of Dr. James Lerman's book, "Essential Websites for Educational Leaders in the 21st Century." Selected sites were chosen for their ease of access, content of value, ease of navigation, credibility/reliability of content, and relevance for the reader.

New in 2007 was imageide@s. Providing more than 1,500 print-quality images to classrooms around the state, imageide@s offers copyright-free digital images for Wisconsin educators.

All of the images in the imageide@s repository are free for educators to use within their classrooms.

Metropolitan Multicultural Teacher Education Program (MMTEP) ($94,069)
The Division of Continuing Education, Outreach and E-Learning continues to fund the Metropolitan Multicultural Teacher Education Program (MMTEP), which remains a national model for bringing more people of color into teaching. The program is a collaborative effort of the University of Wisconsin-Milwaukee's School of Education, the Milwaukee Public Schools, and the Milwaukee teachers' union.

Cultural Coalition ($23,000)
The Division of Continuing Education, Outreach and E-Learning is a member of the Cultural Coalition, an alliance of state and nonprofit arts, humanities and history agencies and organizations that promotes arts and humanities in the state. Along with Outreach and E-Learning, the Cultural Coalition members are: Wisconsin Public Television; Wisconsin Public Radio; Wisconsin Academy of Sciences, Arts and Letters; Wisconsin Arts Board; Wisconsin Humanities Council; and the Wisconsin Historical Society. The Coalition formed in 1996 to support a common mission to provide and foster lifelong learning and greater appreciation for the arts, culture, humanities, and history.

The Cultural Coalition created Portalwisconsin.org, a Web site to promote arts, culture, humanities, and history in Wisconsin. Using a variety of web-based media, Portal Wisconsin serves as an electronic gateway to rich content throughout the state. Content includes a statewide events calendar, news articles, chats, online galleries, and Web links. Users are able to search for content by keyword, geographic area, interest area, and other means.

Solid and Hazardous Waste Education ($185,543)
The Pollution Prevention Program supports faculty at UW-Madison and UW-Extension who provide Wisconsin businesses and industry with educational programs that reduce hazardous waste generation. Companies have participated in one-day seminars, satellite teleconferences, trade shows, or technical assistance activities conducted by the Center. Each year the Center staff conducts waste reduction/pollution prevention opportunity assessments at industrial plants throughout the state. These assessments provide technical information and assist the companies in establishing strategies for waste reduction. Follow-up evaluations with a number of companies have determined that Center-recommended improvements have resulted in either significant reduction or the elimination of entire waste streams, resulting in substantial cost savings. The Center also cooperates with state agencies and statewide professional and business organizations to widely disseminate pollution-prevention education programs.

C. Integrate Technology and Practice

The Division of Continuing Education, Outreach and E-Learning continues to work with the UW institutions in the development and distribution of online credit and non-credit programs and degrees. Continuing Education, Outreach and E-Learning provides convenient access to UW educational opportunities for people wherever they live and work. Enrollments in UW Online degree programs supported by the division continue to grow at an impressive pace.

The full degree programs supported by Continuing Education Outreach and E-Learning during the 2008-09 fiscal years were:

Partner Programs: Associate Degree Program

- **Associates of Arts and Science Degree** (UW Colleges)

Partner Programs: Baccalaureate Degree Programs

- **Bachelor of Science in Nursing (BSN@HOME)** for Wisconsin RNs through a collaboration by UW-Eau Claire, UW-Green Bay, UW-Madison, UW-Oshkosh, and UW-Milwaukee
- **Bachelor of Science in Nursing (BSN-LINC)** undergraduate degree completion for national RNs through UW-Green Bay
- **Bachelor of Science in Community Education with an emphasis in Child Care** from UW-Milwaukee
- **Bachelor of Science in Business Administration** from UW-Platteville
- **Bachelor of Science in Criminal Justice** from UW-Platteville
- **Bachelor of Liberal Studies with an emphasis in Organizational Administration** from UW-Oshkosh
- **Bachelor of Applied Studies in Fire and Emergency Response Management** from UW-Oshkosh
- **Bachelor of Science in Human Services Online** from UW-Oshkosh
- **Bachelor of Science in Career, Technical Education and Training** from UW-Stout
- **Bachelor of Communicating Arts** from UW-Superior
- **Bachelor of Science in Sustainable Management** through a collaboration by UW-Parkside, UW-River Falls, UW-Stout, and UW-Superior

Partner Programs: Master's Degree Programs

- **Collaborative Master's Degree in Business Administration** from UW-Eau Claire, UW-La Crosse, UW-Oshkosh, and UW-Parkside
- **Master's Degree in Engineering** from UW-Platteville
- **Master of Science in College Student Development and Administration** from UW-La Crosse
- **Master of Science in Criminal Justice** from UW-Platteville
- **Master of Science in Project Management** from UW-Platteville

The online certificate programs include:

- **Human Resource Management** from UW-Platteville
- **Project Management** from UW-Platteville
- **Advanced Project Management** from UW-Platteville
- **International Business** from UW-Platteville
- **Leadership and Human Performance** from UW-Platteville
- **Marketing** from UW-Platteville
- **Graduate Diploma in Criminal Justice** from UW-Platteville
- **MBA Foundations of Business** from UW-Eau Claire and UW-La Crosse

Manufacturing Technology Transfer (MTT) ($199,980)
Manufacturing Technology Transfer (MTT) at UW-Stout provides the means to transfer state-of-the-art manufacturing practices to small and medium-size manufacturers via interaction with UW-Stout faculty, technical advisors, and students. MTT provides direct in-plant assistance in developing and applying a strategy for productivity improvement. The MTT program also provides manufacturers assistance with new product innovation including: engineering assistance, product design, material selection, rapid prototyping, business incubation, and process design. As a result, these companies are able to select and apply appropriate technology, maximize employee productivity and manufacturing capacity, reduce product cost, enhance product quality and customer satisfaction, and develop and implement long-term planning for sustained economic growth. MTT's goal is to stimulate economic development and job creation by enhancing the state's productive capacity and competitiveness in regional and international markets.

Educational Technology Project ($86,305)
The Educational Technology Project is located at UW-Eau Claire. This project has allowed UW-Eau Claire to develop and utilize its telecommunications infrastructure and has provided programmatic support and faculty training to serve the distance education needs of the campus. UW-Eau Claire offers freshman English composition to regional high school students, staff development for area gifted and talented teachers, and video teleconferences for staff development. Since the project began, it has developed Bachelor's and Master's in Business Administration courses that are offered over compressed video to UW-Barron County, and has offered nursing programs as part of the Collaborative Nursing Program.

D. Practice Entrepreneurial Fiscal Management

UW-Extension's continuing education programs, in partnership with the 26 UW campuses, offer learning opportunities to increase professional competencies, improve the workforce, and strengthen the economy. More than 200,000 people enroll in campus-based continuing education programs each year. Continuing Education units at each campus are uniquely positioned to connect university resources and expertise with a range of business and workforce sectors. Each campus unit addresses unique local challenges through programs, services, and partnerships designed and developed to facilitate the transfer of knowledge to learners, helping them update their skills and remain competitive in today's marketplace. Continuing Education, Outreach and E-Learning programs are a tremendous value for the state of Wisconsin—for every $1 of state support invested, the division returns $5.43 in program revenue.

E. Assess the Impact of Programs, Services, and Partnerships

As part of an institution-wide initiative, Continuing Education, Outreach and E-Learning has developed guidelines and processes for evaluating and articulating the human, economic, environmental, and civic impact of continuing education programs throughout the state. Evaluation reports focus on the value that extension programs add to traditional UW courses and outreach efforts and the community partnerships that enhance the credibility and appropriateness of continuing education programs. Impact assessment initiatives contribute to program improvement while demonstrating accountability to learners and stakeholders.

To date, the division has provided direct training to all 26 University of Wisconsin campuses, as well as the School for Workers and UW Learning Innovations. As a result, campuses have begun integrating impact assessment into their course and unit evaluations, and have changed their course evaluation instruments.

The division also worked with UW Learning Innovations to develop program-impact training modules that are available online, free of charge, to all divisions. These online modules focus on basic evaluation skills and are written specifically for UW-Extension and partnering faculty and staff.

IV. BROADCASTING AND MEDIA INNOVATIONS (BAMI)

UW-Extension has organized its broadcasting and conferencing technology services in such a way as to capitalize on the convergence of digital broadcast and computer technologies. This complementary mix blends traditional broadcasting and conferencing with new services delivered through digital technology. New and existing audiences have access to broader and deeper content delivered (and archived for later access) through digital technologies. There are no specifically funded legislated projects in Extension Broadcasting and Media Innovations. The following are the units' major public service program areas.

A. Broadcasting

In partnership with the Wisconsin Educational Communications Board (ECB), Broadcasting and Media Innovations produces and delivers cultural, educational, and instructional programs that meet the needs of individuals, communities, and the state, using the facilities and resources of Wisconsin Public Broadcasting. WHA-TV and WHA-Radio, licensed to the Board of Regents, serve the south central Wisconsin area, and provide educational production facilities and support for faculty in Extension and at institutions located throughout the state. In partnership with public radio stations at other UW System campuses and with ECB, the radio and television service reaches much of the state. There are 494,000 households that view Wisconsin Public Television each week. Wisconsin Public Radio reached 448,000 listeners each week. Every GPR dollar invested in Wisconsin Public Broadcasting leverages $3.00 from other sources. Instructional Communication Systems (ICS) provides 219,000 interactive conferencing hours each year with audio, video and web conferencing technologies. Live and on-demand video and audio streaming services allow the citizens of Wisconsin to access the resources of the university any time, any place.

B. Media Research and Experimentation

Digital Multicasting WPT is using its digital spectrum to broadcast 4 separate channels. In addition to the regular WPT programming, there are WPT Kids, Create, and the Wisconsin Channel. The Wisconsin Channel airs many features produced by WPT and includes "University Place" programming featuring lectures and other presentations from various sources including UW System campuses. The WPT HD channel provides high definition programming separate from the regular WPT schedule. WPR has also begun digital multicasting. The

advent of HD radio has allowed WPR to add a 24 hour HD2 Classical service for listeners in all areas served by a WPR station.

Web Technology Broadcasting and Media Innovations provides innovative web sites for public media. These sites include WPT webcasting of video segments, a "simulstream" of the Wisconsin Channel and access to archived University Place content and WPR "podcasting" of audio programs. WPT and WPR partner in creating Portal Wisconsin which provides access to cultural events throughout Wisconsin as well as WisconsinVote.org to assist voters in making informed voter choices. Special this year, the partners also offered extensive information about the economic crisis via WisconsinMoneyMatters.org and about dealing with the H1N1 Virus by providing up-to-date information about the virus threat online via both WPR.org and WPT.org web sites. ICS provides database web services which guide students to distance education programming offered by all UW institutions. Interactive web conferencing allows students and instructors to share content at a distance while conversing in real time extending boarders of the classroom to any place there is an Internet connection

Datacasting UW-Extension and Wisconsin Public Television are using digital television technology to broadcast information to computers. Because digital television uses the same language as computers (ones and zeros), video, audio and text can now be broadcast to be received and stored in computers as files. Through our partnership with ECB, more than 60 school districts across Wisconsin are using datacast resources.

HD Radio HD Radio is a technology that allows broadcasters to transmit digital quality audio alongside analog-based broadcasts. These digital broadcast channels provide listeners with radically improved audio quality and reception. WPR provides HD service on at least one of its stations in each region it serves.

Pyle Center Distance Education Classroom Upgrades Room 314 in the Pyle Center has been significantly upgraded from an audioconference and computer lab to a high definition telepresence room. The upgraded room features two 65-inch LCD panels, a special conference-style table, data projector, and videoconference codec. Thirteen laptop computers capable of running both Windows XP and Mac OS X, are permanently assigned to the space. Unobstructed ceiling microphones and a high definition camera make the revamped space ideal for learning, teaching, and meeting.

V. ENTREPRENEURSHIP AND ECONOMIC DEVELOPMENT

State and regional wealth creation is driven by entrepreneurial activity. The Division of Entrepreneurship and Economic Development (DEED) fosters, supports and coordinates entrepreneurship and economic development activities at the University of Wisconsin campuses and the communities of Wisconsin. We do this through partnerships with governmental entities, educational institutions, non-profit organizations and the business

community. DEED programs provide access to education and assistance for potential entrepreneurs and small businesses.

A. Small Business Development Center (SBDC) Network

Many small business owners have had little or no formal training in business management. For instance, the owner may have a wonderful skill set as a machinist or auto mechanic, but lacks the skills needed to manage a business. Thousands of ambitious, hardworking Wisconsin residents who have started or want to start a business are quickly confronted with major issues such as financial management, inventory control, marketing, and human resource issues for which they are totally unequipped. Reports from highly recognized firms like Dun and Bradstreet repeatedly point to bad management, not lack of capital, as the major reason for small business failure.

Over 30 years ago, UW-Extension, in partnership with the US Small Business Administration, recognized the enormous need for business management assistance for small business owners and aspiring business owners. Wisconsin was the first state to use training and the classroom to aggressively grow SBDC educational programming. As a result, for over a decade a healthy balance of shared funding has been in place, resulting in proportions of 1/3 federal, 1/3 UW-state and 1/3 client fees. UW-Extension continues to act as the lead center for the SBDC network and is nationally accredited by the Association of Small Business Development Centers (ASBDC).

Compared to other states, there are other notable differences in UW-Extension and SBDC activity. These differences include early adaptation of distance education methodologies, a position as the first SBDC to integrate peer learning for second-stage entrepreneurs, and a strong presence in technology business programming. UW-Extension's SBDC was also among the first to implement a statewide call center, and Wisconsin the first state to integrate electronic documents and client management into the call center concept.

SBDC centers are located at all four-year University of Wisconsin campuses and provide counseling and training services to potential and existing small businesses. In addition, the SBDC network offers several statewide services or programs.

- **Specialty Centers**

  The Wisconsin SBDC network provides expertise to entrepreneurs throughout the state through specialty centers. These differ from other SBDC offices in that services are specialized and offered on a statewide basis. These centers provide advice, guidance and research to entrepreneurs and are an important resource for all SBDC staff. Specialty centers include:
  - Wisconsin Business AnswerLine (WIBAL) – UW-Madison's specialty center is a statewide call center that answers business management and start-up questions free-of-charge, helping to ensure access for Wisconsin entrepreneurs;
  - Center for Advanced Technology and Innovation (CATI) – UW-Parkside's specialty center leverages intellectual property assets within the UW System through technology transfer;

- Wisconsin Innovation Service Center (WISC) – UW-Whitewater's specialty center specializes in new product and invention assessment and market expansion opportunities for Wisconsin businesses; and
- Center for Innovation and Development (CID) – UW-Stout's specialty center provides a broad range of services for manufacturers, including feasibility assessment, product engineering and design, prototype development, product evaluation, and patent advice.

- **SBDC PeerSpectives™ Network**

  As mentioned previously, the Wisconsin SBDC was the first to integrate peer learning for second-stage entrepreneurs. The Wisconsin PeerSpectives™ Network is the result of collaboration between UW-Extension, the Wisconsin Department of Commerce and the Edward Lowe Foundation, and is offered through the statewide Small Business Development Center network on UW campuses. The Wisconsin PeerSpectives™ Network brings together small groups of entrepreneurs to address important business issues. Through confidential roundtable discussions led by specially trained facilitators, CEOs, Presidents and business owners learn from each other's experiences and offer problem-solving ideas about a variety of business and leadership issues unique to growing companies.

- **Entrepreneurial Training Program**

  This statewide program, developed in partnership with the Wisconsin Department of Commerce, encourages business formation and expansion in Wisconsin. Components include classroom course work, individual counseling and coaching, completion of a comprehensive written business plan, and—where indicated—helping the client toward readiness for business financing. In this program, selection of participants is based on their potential to support a business or business expansion idea.

B. The Wisconsin Entrepreneurs' Network (WEN)

The Wisconsin Entrepreneurs' Network (WEN) is a network of over 120 not-for-profit and governmental partners that support economic development and entrepreneurship in the State of Wisconsin. WEN is managed by DEED in cooperation with multiple partner organizations and is funded primarily through a grant from the Wisconsin Department of Commerce. DEED's role is to manage the administration of the network, to encourage communication and collaboration within the network, and to provide technical expertise to partners. WEN also provides technical assistance directly to entrepreneurs through its regional directors and minority business director. WEN shows promise for continuing the UW-Extension legacy for innovation and impact throughout the state.

The WEN program is designed to reinforce and enhance an entrepreneurship system that integrates effective and comprehensive services to entrepreneurs and small business owners. UW-Extension's experience in working within the field of entrepreneurship points to the limited effectiveness of entrepreneurial development services which are uncoordinated. From the viewpoint of the entrepreneur, complicated and fractured business services can be

frustrating, time-consuming, and damaging to business success. From the viewpoints of policy-makers and legislators, the absence of effective and collaborative systems diminishes the potential of economic development.

Areas in which WEN provides services directly to entrepreneurs include the following:

- **Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) Program Assistance**

  The Small Business Innovation Research and the Small Business Technology Transfer programs are vehicles for innovative businesses and academic researchers to move university R&D from lab to market. SBIR and STTR are national competitions that provide a significant opportunity for bringing federal funds to the Wisconsin economy. As part of WEN, four Regional Directors identify and assist companies who are potential SBIR/SSTR applicants. While each of the Regional Directors has a particular area of expertise, one, Pat Dillon, has significant expertise relating to SBIR/STTR assistance and is a Tibbetts Award recipient.

- **Minority Business Assistance**

  WEN, in partnership with the Wisconsin Department of Commerce, increased its commitment to minority businesses through the creation of a minority business director. This position is located in Milwaukee and provides business counseling services and training in Southeastern Wisconsin.

- **Inventors and Entrepreneurs Clubs**

  In support of an entrepreneurial climate, WEN provided up to $73,000 in assistance to inventor and entrepreneur clubs (I&E Clubs). To date, 42 counties have I&E Clubs. Through inventor and entrepreneur clubs, inventors come together to think creatively, develop their ideas, weigh the risks, and meet other would-be entrepreneurs. Studies show that an individual is three times more likely to become an entrepreneur after meeting another entrepreneur. Club meetings create a venue where members gather to share their passion and ideas, exchange information through peer-to-peer mentoring and build support for their endeavors. They also learn how to take their idea or invention and turn it into a tangible product or viable business.

C. Grants Programs for Entrepreneurs

The Division of Entrepreneurship and Economic Development administers several Wisconsin Department of Commerce Grant programs that provide early stage financial assistance to small businesses and potential entrepreneurs. These grants are aimed at helping businesses obtain capital and include Early Planning Grants (EPG), the Technology Assistance Grants (TAG), Dairy 2020 grants, and Entrepreneurial Training Program (ETP) grants.

VI. OTHER UW SYSTEM INSTITUTIONS

UW institutions other than UW-Extension manage $23.6 million in extension and public-service funds. Most of these funds are at UW-Madison, where they support the State Laboratory of Hygiene, the Wisconsin Veterinary Diagnostic Laboratory, and other ongoing programs in the School of Veterinary Medicine, the State Cartographer's Office, and the LaFollette Institute.

Other programs at UW System institutions support institution-based extension program activities, public-service radio station operations and programming, community-service forums and programs, and business awareness and development outreach efforts in communities.

The largest non-UW-Extension program is the State Laboratory of Hygiene ($9.8 million), which provides highly complex laboratory testing services.

UNIVERSITY OF WISCONSIN SYSTEM

2010 RESEARCH REPORT

UNIVERSITY OF WISCONSIN SYSTEM 2010 RESEARCH REPORT

I. OVERVIEW

As shown in Table 1, the University of Wisconsin System's 2009-10 GPR research budget was $94.5 million. The majority of the research funding (72.6 percent) was in the UW-Madison budget.

TABLE 1
RESEARCH FUNDING BY INSTITUTION
2009-10 FISCAL YEAR

INSTITUTION	FUNDING	PERCENT
Madison	$68,540,159	72.6%
Milwaukee	$22,432,356	23.7%
Comprehensives	$2,103,426	2.2%
Systemwide	$1,392,387	1.5%
Totals	$94,468,328	100.0%

II. UW-MADISON RESEARCH

A. Background

UW-Madison's 2009-10 GPO research budget was $105.8 million (for GPO, or General Program Operations, the university incorporates indirect federal cost reimbursement and some miscellaneous operations revenue to supplement GPR). Some of the key facts about the research budget include:

- $72.7 million was allocated to salaries and wages, and $26.8 million was allocated to fringe benefits. Part of the research budget was offset by sales credits of $5.9 million.
- The salary and wage budget provided funding for 714.97 unclassified and 345.29 classified FTE research positions.
- The budget was divided among three funds: general program operations, industrial and economic development, and distinguished professorships.
- The general program operations fund accounted for 98 percent of the total GPO research budget.
- Six schools and colleges accounted for approximately 94 percent of the general program operations (GPO) research budget: the College of Agricultural and Life Sciences, the College of Engineering, the College of Letters and Science, the Graduate School, the School of Medicine and Public Health, and the School of Veterinary Medicine. The budget for the College of Agricultural and Life Sciences alone was over 31 percent of the general program operations research budget.

B. Use of Funds

The GPR research funding functions as an investment in UW-Madison's research enterprise. It provides the core support and basic infrastructure that are required for the continued operation of sponsored research programs. In a typical department, GPR research funds support the salaries of classified administrative and fiscal staff responsible for payroll processing and purchasing related to external grants, the preparation of grant applications, and required correspondence related to grant activities, etc. Typical biological and physical science departments and campus-wide research support centers also budget GPR research funds for classified and unclassified technical support personnel, such as laboratory technicians, lab animal care staff, and instrumentation technicians. These positions form a human resource infrastructure that provides general support to sponsored research programs. Responsibilities of the positions are not limited to, or associated with, particular research grants or projects. Instead, they provide broad support to the total sponsored research program. Continuity of funding for these positions is a fundamental requirement. A department cannot, for example, hire and terminate a payroll benefits specialist whenever it begins and concludes a sponsored research project. The GPR research budget ensures continuity of funding.

The budget is also invested in partial salary support for faculty members. GPR research funds are budgeted for faculty salaries for a variety of purposes, including:

- match money for federal grants that require institutional contributions;
- supplements to existing sponsored research activities;
- support for a faculty member to compete for extramural funds; or
- "bridge" funds which support a faculty member's research efforts for an interim period when extramural funding has expired.

In 2008-09, the return on this state investment totaling $68.5 million in support staff and faculty salaries was $810 million in extramural grants and contract awards.

C. Relationship of Research Funding and Research Projects

With the exception of legislated research projects and projects funded through the Faculty Research Committee, the GPR research budget is not allocated on a project basis or for narrowly defined research purposes. The support staff discussed above are rarely associated with specific research efforts or projects. Therefore, they are not budgeted in that manner. At any time, the research components of a particular faculty member's salary might be associated with multiple research projects (some federally and some privately funded) with different time frames and purposes. In these multiple projects, the salary serves different functions (e.g., as a required match in some, as a supplement in others, etc.). Alternatively, the research component of a faculty member's salary might not be associated with any specific research projects; the faculty member might be writing one or multiple grant proposals. Given these complexities, GPR research funds for faculty salaries, like support staff salaries, are not budgeted for specific projects or narrowly defined research purposes.

D. Reductions and Reallocations

UW-Madison has absorbed significant reductions and made significant reallocations of its GPR research budget over the past 37 years. The reallocation has resulted from three categories of funding shifts:

- institutional reallocations to meet institutional priorities;
- internal school and college reallocations to meet school and college priorities; and
- program and activity reclassifications.

In addition, there have been significant reallocations that did not affect the total GPR research budget. Existing GPR research funds have been shifted between schools and colleges, and departments. Although there have been large individual reallocations, most reallocations are relatively small, take the form of vacant position transfers or redefinitions, and are conducted at the school or college level. The position approval process is the primary tool available to school and college administrators for reallocating the GPR research budget.

III. UW-MILWAUKEE RESEARCH

UW-Milwaukee's total 2009-10 GPO research budget was $22.5 million. The GPR-funded research is making a critical difference to UWM's progress toward becoming a premier urban research university. In particular, GPR-funding facilitated the recruitment of cohorts of faculty in areas of strategic importance to established or developing industry clusters in Southeast Wisconsin including:

- Advanced/green manufacturing;
- Biomedical engineering including imaging;
- Drug discovery;
- Health/medical informatics; and
- Water sciences and technology.

UWM is making great progress in developing its externally funded research programs, with the institution well over halfway towards its goals of having $100 million in research expenditures. GPR-funded research funding is aiding technology transfer initiatives, particularly with regional companies.

UW-Milwaukee's utilization of its GPR research funds began a strategic transformation to increase research expenditures and impact the region in 2005-06. First, a new investment of $1 million in base resources was committed to funding the Wisconsin Institute for Biomedical, Health and Information Technologies (WIBHT). These funds were reallocated in 2008-09 to allow recruitment of faculty in biomedical engineering, imaging and in new drug discovery. In 2005-06, UW-Milwaukee initiated the Research Growth Initiative (RGI) – a strategic plan to invest UW-Milwaukee's GPR research funds into research proposals that would attract a higher return of extramural dollars than UW-

Milwaukee has previously accomplished. Funding for the program was a combination of the reallocation of GPR dollars and campus reserves. UW-Milwaukee faculty and staff were invited to submit requests for institutional funding to develop grant proposals. Five rounds of RGI have been conducted and over 800 proposals were submitted. The proposals were reviewed by external reviewers. This review process resulted in over 150 awards over the five years of the program.

Funds were also reallocated during 2008-09 to support intensive "grantsmanship" training for faculty and research scientists. Among the attendees, a faculty member in the first cohort was successful in obtaining a National Science Foundation CAREER award. Overall, the RGI and other initiatives have resulted in marked increases in research expenditures at UWM. In 2008-09, UWM's total research expenditures reached $50 million for the first time. There were record externally research expenditures for six schools/colleges. In 2009-10, research expenditures are close to $60 million.

In addition, the other specific uses of UW-Milwaukee's GPR research budget were reviewed closely in 2005-06. A strategic reallocation was implemented the following year to prioritize the uses of these funds in 2007-08:

- The Research Growth Initiative (administered by the Graduate School) awarded substantial funds as seed investments in new research projects following an external review process.
- The Graduate School Research Committee awarded modest amounts of funding to develop new research programs.
- The Graduate School provided matching funds on research grants to satisfy funding agency expectations, including the required cost sharing on major equipment grants.
- The Graduate School research centers, laboratories, institutes, and offices funded continuing research projects and reviewed the research of faculty and staff scientists.

Each College also had their own research initiatives, such as:

- The College of Engineering and Applied Science awarded matching funding on grants to senior faculty as well as seed money and release time from teaching to junior faculty to initiate research programs and projects.
- The College of Letters and Science assigned research funding based upon the research activity and extramural funding generated by faculty; this often served as a match on grants.
- Several initiatives included in the Milwaukee Idea involved research in health-related fields (Healthy Choices Initiative and Institute of Environmental Health) and economic development (Consortium for Economic Opportunity and Milwaukee Industrial Innovation Center). The former evolved into the new School of Public Health.

- The Helen Bader School of Social Welfare operated a Center for Addiction and Behavioral Health Research.

During 2008-09, UW-Milwaukee received almost $10 million through the Biennial Budget for Phase I of its Growth Agenda initiatives, of which a large portion was research funding. This represents the large increase in the research funds from the 2007-08 report. At the beginning of 2009-10, the majority of these funds were budgeted centrally, as recruitments were under way for the faculty and staff hires. As hires are made, funds were transferred to the appropriate areas. Most of the research hires were in the College of Engineering; with others key hires being made in the College of Letters and Sciences, the College of Health Sciences, and the School of Public Health. New initiative funds were employed to increase personnel in both pre- and post-awards areas of sponsored programs. With this augmented funding, researchers are received stronger support. In addition, one-time funds in excess of $20 million have been separately earmarked to address the space and one-time start-up needs for these new faculty involved in research.

Table 3 provides a breakdown by school/college of GPR-funded research budgets for 2009-10.

IV. UW COMPREHENSIVE INSTITUTIONS RESEARCH

Although approximately 96 percent of the UW System's GPR research funding is budgeted at UW-Madison and UW-Milwaukee, faculty at the comprehensive institutions also need to engage in research in order to remain current in their fields. The comprehensive institutions have established internally funded programs designed to encourage and support faculty and academic staff members to engage in research and other scholarly and creative activities, as well as to provide research experiences for their undergraduate and graduate students. Funds are available for researchers, writers, artists, and performers who need project support for gathering data, accessing primary materials, equipment, services, supplies, student research collaboration, and clerical assistance. Currently, funding awards are generally relatively small ($100 to $5,000), though some institutions provide larger awards in limited instances.

V. SYSTEMWIDE RESEARCH

Funding for three UW System research programs is held in systemwide accounts. These programs are:

- APPLIED RESEARCH, which provides funding for UW System institutions for research addressing specific problems faced by Wisconsin industries. Details regarding this program are provided in a separate biennial report to the State.

- DISTINGUISHED PROFESSORS, which provides partial support for eighteen Distinguished Professor positions in the University of Wisconsin System for research in areas of vital or emerging economic significance to the State of Wisconsin. The GPR funding is matched by an equal or greater amount from businesses and/or non-GPR sources. At the end of the 2009-10 fiscal year, this funding supported five professors at UW-Madison, seven at UW-Milwaukee, one at UW-Platteville, and one at UW-La Crosse, with four appointments pending.

- SOLID WASTE RESEARCH PROGRAM, which provides funding to UW System principal investigators and undergraduate students for research into alternative methods of solid waste disposal. Funding for the program is provided through the state's Recycling Fund. The program's website, www.uwsa.edu/oslp/ehs/swrp, has information about funded projects.

TABLE 2
UNIVERSITY OF WISCONSIN-MADISON
2009-10 GPO RESEARCH BUDGET

DIVISION	Funding	Percent
University Administration	$37,800	0.0%
Division of Information Technology	$287,000	0.4%
College of Agricultural and Life Sciences	$24,611,664	31.2%
International Studies	$248,460	0.3%
School of Business	$50,728	0.1%
School of Education	$482,667	0.6%
College of Engineering	$2,856,386	3.6%
School of Human Ecology	$154,991	0.2%
Graduate School	$18,433,793	23.3%
Institute for Cross-College Biology Education	$640	0.0%
Institute for Environmental Studies	$533,914	0.7%
Law School	$240,197	0.3%
College of Letters and Science	$7,816,493	9.9%
School of Medicine and Public Health	$15,188,048	19.2%
School of Nursing	$156,234	0.2%
Psychiatric Institute	$363,607	0.5%
School of Pharmacy	$1,316,616	1.7%
School of Veterinary Medicine	$5,319,387	6.7%
Campus-wide (Undergrad Res. Fellowships)	$890,019	1.1%
Total	$78,988,645	100.0%

Note: Table 2 excludes Fringe Benefits and Legislated Research Projects. Funds are GPO (not depooled). Percentages may not add to 100% due to rounding.

TABLE 3
UNIVERSITY OF WISCONSIN-MILWAUKEE
2009-10 GPO RESEARCH BUDGET

DIVISION	Funding	Percent
Administrative Affairs	$220,917	1.0%
Academic Affairs	$116,516	0.5%
Health Sciences	$266,864	1.2%
Architecture and Urban Planning	$21,307	0.1%
Business Administration	$239,680	1.1%
Education	$62,081	0.3%
Engineering and Applied Science	$992,664	4.4%
Arts	$1,206	0.0%
School of Freshwater Sciences	$1,642,007	7.3%
Graduate School	$4,080,092	18.1%
Information and Media Technolog	$364,261	1.6%
Letters and Science	$1,686,294	7.5%
Nursing	$262,051	1.2%
Public Health	$464,396	2.1%
Social Welfare	$280,855	1.2%
Unit Wide	$11,831,165	52.5%
Total	$22,532,356	100.0%

Note: Table 3 shows the portion of the total GPO (not depooled) budget accounted for by each UW-Milwaukee school, college, and administrative unit in 2009-10. Percentages may not add to 100% due to rounding.

APPENDIX 1
CURRENT RESEARCH PROJECTS

I. UW-MADISON

GPR research funding supports the basic functions necessary to secure grants and gifts from any other sources. These basic functions include:

- applying for grants;
- administering the grant financial and reporting requirements;
- maintaining research laboratories and equipment;
- "bridging" or maintaining research activity outside of a grant period or in support of a grant.

Research involves complex contracts that vary by sponsor, even among federal agencies. Administrative and fiscal staff ensure that grant applications are prepared according to the requirements and oversee that specifications are met during the grant process and closeout. These requirements include identifying costs that can and cannot be charged to a grant, ensuring that the grant is not overcharged, ensuring that matching requirements are met, ensuring that the appropriate amount of work effort is applied to the project, monitoring subcontracts, and meeting reporting requirements. These positions allow the researchers to focus their time and expertise on research rather than trying to understand and comply with various administrative requirements. Staff undergo a huge learning curve to administer grants; therefore, it is essential to retain these trained individuals. Continuity of funding is critical for an efficient research infrastructure.

Besides research administration, researchers must maintain their lab facilities and research materials. This includes maintaining equipment and caring for animals. GPR supports technical staff that perform these duties. In addition, research samples need to be collected and housed at the time they are available regardless of whether a grant period has started. GPR may temporarily cover the costs that the faculty member incurs to continue the research until other funding is available. This becomes particularly important when the federal budget is delayed and the agency cannot release grant funding until it passes.

GPR provided by the state for research demonstrates to sponsors that the state is committed to performing research and partnering with the sponsor. The importance of this commitment has increased as more research involves multiple organizations. Various research entities band together and leverage their strengths to obtain limited research dollars. All of the participating organizations must have the research infrastructure in place to guarantee that they can meet and uphold the requirements of the grant or gift. In 2008-09, the return for every $1 of GPR invested was $11.76.

The following are a few examples of recent projects at UW-Madison and their impact:

Developing Greener, Sustainable Fuels
UW-Madison is a leader in developing greener, sustainable fuels. James Dumesic, a professor of chemical and biological engineering, is developing ways to convert abundant plant-based sugars and other biomass into gasoline, diesel, and jet fuel. He and his students have improved the efficiency and yield of producing an important chemical intermediate called HMF that may be used to replace petroleum-based chemicals in plastics as well as fuels. The university also houses the Great Lakes Bioenergy Research Center, which supports a wide range of approaches toward a new generation of sustainable bioenergy feedstocks, processing technologies, and fuels.

Improving Drug Prescribing through "Personalized Medicine"
Millions of patients take the anti-coagulant drug Warfarin to prevent life-threatening blood clots that can cause heart attacks and strokes. When given the standard starting dose, half of the patients risk serious problems including dangerous bleeding. An international research team, including three UW-Madison researchers, created a model to help doctors determine the best dose of the blood-thinning drug for each patient. David Page, PhD, professor of biostatistics and medical informatics at the UW School of Medicine and Public Health (SMPH), oversaw the data analysis on the project, undertaken by the International Warfarin Pharmacogenetics Consortium. The study appeared in the Feb. 19, 2009 issue of the New England Journal of Medicine.

This project is an example of "personalized medicine" which utilizes genetic information to improve health care. The Governor and state legislature approved one-time funding in the 2009-2011 biennium for the Wisconsin Genomics Initiative to help expand this type of research.

Improving the Safety and Quality of Wisconsin's Highway Bridges
A research partnership between several UW-Madison engineers and the Wisconsin Department of Transportation has led to design improvements and cost savings for Wisconsin's highway bridges. The testing of innovative materials and bridge designs around the state (in Dane, Dodge, Fond du Lac, Jackson, and St. Croix counties) have allowed researchers and state engineers to increase safety and durability, especially through Wisconsin's harsh winters. By exploring novel construction methods, these researchers have also devised ways to cut construction time and reduce lane closures and delays – eliminating millions of dollars in costs for the trucking industry and the public.

Mitigating the Impact of Climate Change on Wisconsin's Environment and Economy
Through a collaborative project of UW-Madison and the Wisconsin Department of Natural Resources (DNR), the Wisconsin Initiative on Climate Change Impacts (WICCI) assesses how climate change will affect the state's ecosystems, industries, farms, tourism, and human health. A report by University of Wisconsin-Madison scientists forecasted significantly warmer winters, altered patterns of precipitation and more severe weather events for the Badger state, on top of a climate that has already warmed noticeably over the past 60 years. This report – one of the most detailed and comprehensive regional climate projections available for any state – is now being used by several WICCI working

groups to develop adaptation strategies to maintain Wisconsin's ecological and economic health in the face of a changing climate.

II. UW-MILWAUKEE

GPR support for research is of critical importance to UWM for the following reasons:

1. It provided critical support to facilitate cluster hiring of faculty in the following areas that are important to funded research and/or under-girding regional economic development:
    - Advanced/green manufacturing;
    - Biomedical Engineering including imaging;
    - Drug Discovery;
    - Ergonomics;
    - Freshwater Science; and
    - Health/medical informatics.

2. It provides funding for research infrastructure. Strong support for research is necessary to increase the competitiveness of UWM researchers for extramural funding, including Federal competitive funding from such agencies as the National Science Foundation and the National Institutes for Health. GPR support for research infrastructure includes the following:
    - Core facilities with state-of-the-art equipment;
    - Matches for Federal grant proposals;
    - Seed funding to facilitate the generation of preliminary data for proposals. It is the requirement of the largest of these programs, the Research Growth Initiative (RGI), that proposals leverage at a return per GPR dollar invested at a 3:1 ratio;
    - Support for the development of strong proposals from faculty and other researchers; and
    - Pre- and post-award management to support researchers while ensuring UWM is in compliance with Federal and other requirements.

Among UWM's many research programs that are making a difference to the discipline and/or the region are the following:

1. Water technology programs are advancing. This builds on the long-standing GPR support for research at the WATER Institute and the cluster hires in advanced manufacturing in UWM's College of Engineering and Applied Sciences:
    - In 2009-10, UWM announced the establishment of an Industry/University Cooperative Research Center (I/UCRC) on water technology in a partnership with Marquette University. This is funded by the National Science Foundation and six regional companies.
    - UWM's programs in cutting edge aquaculture programs are attracting USDA and other Federal funding, along with partnerships with community groups and local companies.

2. Faculty in UWM's biomedical engineering programs are developing novel technologies to determine the structure of molecules to allow the MRI of moving organs (e.g. the heart) or to correct for movement of the head and visualize blood vessels in the eye (and hence obtain diagnosis of eye problems associated with diabetes). In biomedical sciences, there are important contributions from UWM's drug discovery groups with new drugs discovered and licensed to Wisconsin companies.

3. One of UWM's initiatives is the development of a School of Public Health. In partnership with Children's Research Institute, UWM has a prestigious National Institute of Environmental Health center of excellence focusing on the impact of environmental toxicants on children's health.

APPENDIX 2
UNIVERSITY OF WISCONSIN SYSTEM
LEGISLATED RESEARCH PROJECTS

RESEARCH PROJECTS	2009-10 BUDGET
UW-MADISON	**$14,924,963**
A. Advanced Programs in the Medical School	$50,800
B. Agriculture Research Consortium/Cooperative Research	$213,273
C. Arthritis Consultation Center	$88,160
D. Biological Faculty Initiative	$430,000
E. Biotechnology Center/Biotechnology Transfer	$1,348,769
F. Cancer Care Program	$62,100
G. Center for Integrated Ag. Systems/Sustainable Ag.	$309,705
H. Cheese Research Institute	$218,880
I. Distinguished Professorships	$409,256
J. Family Farm Institute	$88,666
K. Geographic Information Systems	$121,287
L. Groundwater Research	$196,484
M. Industrial and Economic Development Research Fund	$970,520
N. Islet Transplantation Program	$200,000
O. LaFollette Institute for Public Affairs	$290,708
P. Materials Engineering	$178,500
Q. Mechanical Heart Research	$100,000
R. Nonpoint Source Pollution Control	$125,470
S. School of Veterinary Medicine	$5,074,787
T. Sea Grant Institute	$1,191,058
U. Small Scale Waste Systems	$146,540
V Wisconsin Genomics Initiative	$2,000,000
W. Wisconsin Idea - Engineering Quality	$110,000
X. Wisconsin Initiative for Alzheimer's Research	$1,000,000

Note: GPR only: J and N include fringe benefits.

UW-MILWAUKEE	**$1,346,296**
A. Grant Matching and Research Committee Awards	$774,896
B. Great Lakes Water Institute	$102,800
C. Research in Engineering and Technology	$54,000
D. Technology Transfer	$107,600
E. Milwaukee Research Plan	$220,600
F. Research in Engineering	$86,400

Note: Item A represents the current 101-4 budget; items B through F are actual legislated allocations over a period of 1973-74 through 2005-06.

SYSTEMWIDE		**$1,507,304**
A.	Applied Research	$473,789
B.	Distinguished Professors	$879,215
C.	Solid Waste Experiment Centers, Noncompostible Landfill and Sludge	$154,300

UNIVERSITY OF WISCONSIN SYSTEM TOTAL **$17,778,563**

APPENDIX 3
LEGISLATED RESEARCH PROJECTS

I. UW-MADISON

A. Advanced Programs in the Medical School

In 1973-74, the UW-Madison Medical School received funding for research to advance the understanding of medical applications in:

- advanced clinical care of cancer patients;
- rehabilitation of the aged;
- law enforcement pathology; and
- environmental and occupational medicine.

This funding was added to the Medical School's GPR research base to support research efforts in the prescribed areas. The funds remain in the Medical School's GPR research budget and provide base support for the Medical School's research program.

B. Agriculture Research Consortium Cooperative Research

The UW System's Agriculture and Natural Resources Consortium was established approximately 20 years ago. Its primary purpose is to foster coordination and cooperation in research and extension planning among the agriculture and natural resource programs at UW-Madison, UW-Platteville, UW-River Falls, UW-Stevens Point, and UW-Extension. The consortium promotes excellence in undergraduate and graduate training, and, through these funds, supports applied research for stronger information outreach related to agriculture and natural resources areas.

The funds are administered through the UW-Madison College of Agricultural and Life Sciences. Projects are normally established for a two-year period, subject to renewal.

To maximize the effectiveness of the research funding, consortium members target selected research areas each year. Areas that are currently emphasized include rural health and youth issues, forest landscape diversity, tourism development, and alternative agriculture products and uses of products. Each of these areas has a significant impact on the economic viability of Wisconsin's rural communities. The list of targeted research areas is reviewed periodically to respond to changing and emerging needs in Wisconsin agriculture, forestry, and tourism.

C. Arthritis Consultation Center

This project provides base support for the research program in the Arthritis Consultation Center, which is located within the Section for Rheumatic Disease at the UW-Madison

Center for Health Sciences. Research efforts focus on improving diagnostic and therapeutic services to patients suffering from connective tissue diseases. In addition to providing clinical care services and conducting related research, the Center has developed consultative, educational outreach services for physicians, hospitals, and other institutions throughout the State of Wisconsin.

D. Biology Faculty Initiative

This initiative provided continuing base salary and fringe benefit support (and one-time start up funding) for an additional eight FTE faculty members in the biological sciences. The new faculty members were placed in a variety of departments, including Genetics, Chemistry, Zoology, and Animal Health and Biomedical Sciences. Research focus of the new faculty members are interdisciplinary efforts in biotechnology and genomics.

E. Biotechnology Center/Biotechnology Transfer

The mission of the Biotechnology Center is to maximize the benefits of biotechnology to UW-Madison, the UW System, the State of Wisconsin, and the nation by supporting, coordinating, advancing, and disseminating biotechnology and related activities.

The Center operates five service facilities that provide state-of-the-art shared services, equipment, and trained personnel to support campus research and the research needs of Wisconsin biotechnology businesses. The service facilities include Protein/DNA Sequence/Synthesis, Protein Purification, Transgenic Mouse, Hybridoma, and Bioinfomation.

The Biotechnology Center also conducts its own research program. Current research efforts include projects on enzyme engineering, plant biotechnology, and methods development. In addition, the Center has formed multidisciplinary applied research consortia in the areas of biopulping and bioremediation. The Center is forming new consortia in the areas of biomaterials and bioscience.

The Biotechnology Center also disseminates knowledge, information, and technology to state government agencies, businesses, and educational institutions through active technology transfer and public education efforts.

The Biotechnology Transfer Office was established to improve interactions between Wisconsin's biotechnology business community and Wisconsin universities. The Office, which is part of the Biotechnology Center, initiated a three-tiered approach to improve interactions with Wisconsin Industry. This approach includes:

- Wisconsin Businesses Newsletter. The monthly newsletter reports on news and information that is important to Wisconsin's biotechnology community; provides a chronicle of the issues, events, and growth of the biotechnology industry in Wisconsin; and includes regular articles on legislative activities relevant to biotechnology, company profiles, investment and partnership opportunities, research highlights and technology briefs, etc. The newsletter is intended as an

informational and marketing tool both inside and outside of Wisconsin. It is sent to biotechnology companies, state biotechnology agencies, legislators, and researchers. At present, there are approximately 3,000 recipients of the newsletter.

- Wisconsin Biotechnology Company Database. The newsletter and direct interactions with companies enable the Biotechnology Transfer Office to compile current and comprehensive information about biotechnology firms in Wisconsin. A database has been created that enables the Office to monitor the industry, its needs, and its growth.

- Interaction with Business and Government Agencies. The Biotechnology Transfer Office is an important university interface with the Wisconsin biotechnology business community. The Office provides businesses with information, referral to appropriate sources of expertise, and connections and introductions. The Office regularly visits companies to gather information and inform them of available assistance. It also actively supports the efforts of the following agencies/groups: the Governor's Task Force on Science and Technology, its Biotechnology Task Force and several task-force subcommittees (marketing, education, databases); the Department of Development; Forward Wisconsin; and Dane County government.

F. Cancer Care Program

The Community Cancer Care program, which is part of the UW-Madison Center for Health Sciences, provides multiple services to the public, physicians, and other health care professionals. Examples include the Cancer Prevention Clinic, Wisconsin Oncology Group, Cancer Nursing Newsletter, and Cancer Information Service. The program conducts cancer research studies on such topics as smoking cessation and epidemiology. Because over 80 percent of cancer patients are treated in their home communities, a primary goal of the program is to disseminate information statewide about cancer prevention and treatment.

G. Center for Integrated Agricultural Systems/Sustainable Agriculture

The Center for Integrated Agricultural Systems was established to provide research and extension programs that address issues involving agricultural profitability, environmental quality, and linkages to rural communities. These programs are conducted by the Center's faculty and staff in collaboration with Wisconsin farmers and other Wisconsin citizens, who participate on an advisory council to the Center.

In conducting research projects, the Center assembles interdisciplinary research teams from the faculty of the four UW System agricultural colleges, and involves Wisconsin farmers. Recent projects include: comparisons of alternative dairy farming methods and cropping systems; alternatives to pesticide use in potato production; verification of using legumes and soil tests to reduce nitrogen use; and an examination of the value of

groundwater to central Wisconsin residents. Current activities are focused on developing case studies for research, various research projects related to intensive rotational grazing, and dairy systems and socio-economic implications of biotechnology.

The Center published and distributed a teacher's guide to sustainable agriculture for use in high school agriculture curricula. The Center also coordinates graduate work and research in sustainable agriculture, and is developing related capstone graduate and undergraduate seminars.

H. Cheese Research Institute

The research program of the Cheese Research Institute provides the Wisconsin dairy industry with current information on the economics, processes, and techniques of cheese production and distribution. Because the market for cheese products has become increasingly segmented (both in terms of cheese types and consumers), it is important that Wisconsin producers have up-to-date information on production technologies and consumer preferences. Examples of recent research efforts include:

- the development of a "user-friendly" economic engineering model designed for use by cheese plant managers to maximize the profitability of large or small dairy plants;
- a study of the factors affecting physical characteristics of cheeses;
- a study of the correlation between milk quality parameters and the economics of cheese production;
- studies on controlling and enhancing flavor and body characteristics of low-fat and low-sodium cheeses;
- an analysis of consumer preferences regarding surface color of commercially smoked cheddar and swiss cheeses; and
- twelve interrelated projects that focus on flavor control, mechanisms of flavor development, and the measurement of flavor compounds. These projects analyze the effects of selected bacteria and enzymes on control and enhancement of cheese flavor, quality, and intensity.

I. Distinguished Professorships

The Wisconsin Distinguished Professorship program is designed to recognize and support professorships in areas of vital or emerging economic significance to the State of Wisconsin. A Wisconsin distinguished professor is an individual whose scholarship and service can demonstrate potential impact on Wisconsin's economy and who would be judged as outstanding by peers and the public alike. The state's funding contribution to each professorship must be matched with private money during the individual's five-year program appointment. The private match is used for research support and may be combined with institutional funds to support the remainder of salary and benefits costs, and associated costs of research.

J. Family Farm Institute

The Agricultural Technology and Family Farm Institute (ATFFI) was established to conduct research and extension/outreach on the relationships between technology and family farms. The purposes of the ATFFI are to:

- evaluate the effects of new technology, state and federal policies, and other factors on family farm agriculture;
- recommend policies to take advantage of new technologies and mitigate disadvantages;
- assist farmers in meeting the challenges of new technologies; and
- ensure that farmers have access to new technologies.

Examples of current research efforts include:

- a feasibility study of a "marketing agency in common" for milk (and the benefits, costs, and consequences for family dairy farmers);
- construction of a conceptual scheme for inventorying relationships between biotechnology and sustainable agriculture;
- a case study of the legal, policy, and commercialization options associated with innovative scientific approaches to directing biotechnology research to local agro-ecological conditions; and
- a case study of organizational problems and options in small horticultural production and marketing cooperatives.

K. Geographic Information Systems

The State Legislature and the UW-Madison entered into a collaborative arrangement to produce an integrated system that incorporated geographical information software programs, U.S. Census data, and State Elections Board data. The project was designed to aid the Wisconsin Legislature in the decennial redistricting process and to give researchers and members of the public access to spatial and tabular data from the 1990 census. UW-Madison's Land Information and Computer Graphics Facility coordinated the project.

The project's long-term goal was to provide access to data from the 1990 census to researchers who need information on geographic factors. This data was to include all publicly available data for Wisconsin and has expanded to other locations and types of data since that time.

L. Groundwater Research

The Groundwater Research Program was established to conduct research on groundwater problems in the State of Wisconsin. The program provides funding for individual research projects. Input into the selection of individual research projects is provided by

the Groundwater Research Advisory Council, which is appointed by the UW-Madison Chancellor to advise the program, and the Groundwater Coordinating Council of the State of Wisconsin, a legislatively mandated State council having broad responsibility for coordinating groundwater-related problems in Wisconsin. Projects recently selected for funding were divided into five general categories of groundwater research:

1. Mathematical modeling of groundwater contaminant transport;
2. Sorption reactions which retard contaminant movement to groundwater;
3. Movement of water and contaminants to and through groundwater;
4. Remediation of contaminated soils and waters; and
5. Economic effects of groundwater contamination.

M. Industrial and Economic Development Research Fund

The Industrial and Economic Development Research Fund (UW-Madison Fund 118) supports faculty research projects that show potential for stimulating economic development in Wisconsin and plan for implementation or transfer of technologies which result from such research projects. Since its creation, the Fund has provided support for the following research topics:

- the transfer of biotechnologically-based pest control technologies to the fiber and bioenergy industries;
- the State of Wisconsin's cultural, historical, and environmental contribution towards the successful developing, manufacturing, and marketing of good product design;
- polysaccharide gums from whey permeate for food and industrial use;
- low-noise electronics for sensors;
- development of a permeable wall-closed loop humidity control system;
- analysis and evaluation of advanced bicycle frame design and manufacturing – a joint research effort of UW-Madison and Trek Bicycle Company;
- improved lifetime of die-casting molds by plasma source ion implantation;
- off-resonance spin-locking technique for high-field magnetic resonance imaging; and
- development with Tracor/Northern of a real-time, confocal laser-scanning microscope for three-dimensional and four-dimensional (three-dimensional-versus-time) imaging.

N. Islet Transplantation Program

Islet transplantation is an experimental treatment for type 1 (juvenile) diabetes. When islet transplantation is successful, the patient no longer needs to use insulin injections. The University of Wisconsin School of Medicine and Public Health has been named a National Institute of Health (NIH) Islet Cell Resource Center (ICR). Funding for the Islet Transplantation Program supports the islet isolation facility at the Waisman Clinical Biomanufacturing Facility (WCBF) which produces islet cells that are suitable for

clinical use. State funding not only provides the necessary base resources to maintain and acquire federal grants, but also addresses this increasing and serious disease.

O. La Follette School of Public Affairs

The La Follette School conducts policy research and public service programs. These programs promote the examination of public policies and public institutions, thereby affecting policy-making in the state and the nation. Programs include basic and applied research by individual scholars and teams of scholars and/or practitioners; policy development based on research already completed; and specific and immediate information and seminars, publications, and colloquia designed both to disseminate research results and to stimulate analysis and evaluation.

State GPR funds are used for staff support (faculty release time, graduate research and project assistants, professional and support staff), production and dissemination of publications, and other operating costs.

P. Materials Engineering

The economic future of product-oriented companies in consumer and capital goods industries depend heavily on the understanding and use of newly engineered materials. Materials processing in Wisconsin has traditionally emphasized heavy industrial metals. However, in order to remain viable and economically competitive, many Wisconsin industrial concerns are expanding into high-technology non-metal applications involving ceramic, semiconductor, and superconductor materials. Advanced materials offer an extraordinarily wide range of physical properties, flexible processing, and substitution of inexpensive abundant materials for expensive or rare ones. Wisconsin industry has long been a leader in low-technology materials application, but advanced applications will provide opportunities for new industrial growth. The College of Engineering used these funds to hire two faculty with advanced materials expertise. This enabled the College to establish a communication and research link, related to advanced materials, with Wisconsin industry, and to obtain federal research funds that are available for materials research. This expansion of the materials programs in the College of Engineering contributes to industrial competitiveness and productivity in Wisconsin.

Q. Mechanical Heart Research

The Cardiology Department of UW-Madison's Medical School was allocated funds for the Milwaukee heart project, which involves the building and testing of working prototypes of fully implantable mechanical hearts. The expenditure of these funds requires matching funds from private contributions.

R. Nonpoint Source Pollution

The nonpoint source pollution project is a continuing program, which provides current best-management information and develops a database for establishing priorities in

nonpoint source pollution control. The project also supports demonstration and educational activities. The objectives of the project are to evaluate:

- the effectiveness of agricultural practices in reducing the potential for water pollution from sediment, nutrients, and pesticides;
- the effects of selected soil and crop management practices on runoff and water quality in watersheds, where stream monitoring programs are administered by the U.S. Geological Survey and the Wisconsin Department of Natural Resources; and
- on a whole farm basis, the social and economic factors which govern the adoption of best-management practices to reduce nonpoint source pollution.

Current research efforts include:

- the investigation of the effects of irrigation management and tillage on pesticide movement in alluvial sands and investigation of the movement of atrazine and alachlor with field-installed lysimeters in alluvial sands;
- the evaluation of the effect of tillage systems for soil erosion control and water quality during establishment of alfalfa;
- the measurement of changes in soil properties as influenced by corn production tillage practices;
- the evaluation of the use of recycled paper for urban and highway soil erosion control;
- the evaluation of soybean production practices which minimize soil erosion and maintain water quality in the non-glaciated region of Wisconsin;
- the measurement of runoff, nutrient and pesticide losses from constructed soils to develop practices for urban lawn construction; and
- the determination of the importance of having grass included in a forage production system to minimize soil erosion and nutrient losses to surface waters.

S. School of Veterinary Medicine

The School of Veterinary Medicine's GPR research funding is a portion of the School's total start-up and operating budget, which was provided by the State of Wisconsin in order to establish a veterinary medical school at UW-Madison. In the 1978 "Report of the University of Wisconsin System to State Government on Veterinary Medicine," the full costs of operating a veterinary school were identified by four major cost components, including academic programs, teaching hospitals, library, and facility operating costs. Biennial budget requests for the incremental funding of the School of Veterinary Medicine's operating budget further separated the academic program budget into instruction and research activities. The breakdown between instruction and research reflected the anticipated activity of the faculty in teaching and research, and related support costs of those activities.

T. Sea Grant Institute

The Sea Grant Institute is dedicated to the wise use and development of Great Lakes and ocean resources. Although the Sea Grant Institute is headquartered on the UW-Madison campus, the Wisconsin Sea Grant Program operates systemwide and is statewide in scope. Research projects conducted by the Institute focus on helping to:

- solve Great Lakes water quality problems;
- improve sport and commercial fisheries;
- promote aquaculture development;
- develop methods to assess potential effects of climate change on the Great Lakes;
- respond to the introduction of nuisance exotic species into the Great Lakes; and
- stimulate the economic development of coastal communities and Great Lakes-related industries.

State GPR funding is used to provide the required one-third match for the federal funding the Sea Grant program receives, and to support research and public advisory activities on toxic substances in the Great Lakes and the aquatic environment.

U. Small Scale Waste Systems

The primary objective of the Small Scale Waste Systems project is to conduct research of low-cost sewage systems for problem soils. In particular, the research addresses small wastewater flows that are primarily domestic and non-hazardous. Current research emphasis focuses on two major areas, including the treatment of wastewater by soil and through pretreatment (prior to soil infiltration), and the disposal of wastewaters by infiltration systems of various design. In addition to research, project members provide training and advising to professionals and Wisconsin residents.

V. Wisconsin Genomics Initiative

The Wisconsin Genomics Initiative is advancing personalized health care through a public-private research partnership that leverages the expertise at the Medical College of Wisconsin, the University of Wisconsin School of Medicine and Public Health, UW-Milwaukee and the Marshfield Clinic. By researching the diagnosis, treatment and prevention of human disease in an individualized manner, scientists will be able to predict an individual's risk of developing a disease, create a targeted, personalized treatment, and ultimately prevent disease before it occurs.

The one-time money for this initiative has allowed the organizations to set up the needed infrastructure for research of this scale and magnitude. This improves their ability to obtain highly competitive research funding. Discoveries from this research can generate high tech jobs, reduce health care costs through more effective therapies, and improve health care for everyone.

Each organization brings its strengths to the project: Marshfield Clinic and the Medical College of Wisconsin specialize in the collection and analysis of DNA samples. The University of Wisconsin School of Medicine and Public Health performs comprehensive biostatistical analysis and applies research to real-life medical practice through the Institute for Clinical and Translational Research. The University of Wisconsin - Milwaukee conducts ongoing research in urban health care and health informatics which provides a community health focus.

W. Wisconsin Idea – Engineering Quality

Research funds are used to strengthen the operation and utilization of College of Engineering facilities and programs in manufacturing systems engineering in service to Wisconsin and its large manufacturing industry. The UW-Madison Manufacturing Systems Engineering (MSE) Program, and the related Center for Quick Response Manufacturing, continue their important role of leadership in manufacturing teaching and research. The MSE Master's degree program provides hands-on manufacturing experience using state of the art robotics-controlled manufacturing cells and integrates other technical and managerial skills required by the competitive standing of modern manufacturing firms.

Quick Response Manufacturing is a strategy to cut lead times in all phases of manufacturing and office operations, bringing products to market more quickly and helping businesses compete in a rapidly changing manufacturing arena. Industry leaders and university faculty formed this partnership to consolidate the discussion and investigation of Quick Response Manufacturing. From an initial core group of companies, membership has grown to include nearly 40 manufacturers of various sizes, products, and locations. Center members have the opportunity to not only remain on the cutting edge of manufacturing, but to create it.

X. Wisconsin Initiative for Alzheimer's Research

The Wisconsin Initiative for Alzheimer's Research is working to improve public health by identifying the underlying causes of Alzheimer's disease and developing potential treatments and methods of prevention. UW-Madison is coordinating its efforts with other researchers in the state. Research on this disease is important to this state because the number of Wisconsin residents affected by Alzheimer's is expected to grow by 58% over the next 25 years. The results of these studies can reduce the economic and social costs of this disease.

II. UW-MILWAUKEE

A. Grant Matching and Research Committee Awards

The Graduate School provides grant-matching funds, in the form of research assistantship salary support and equipment support, to foster the extramural funding of faculty research

and creative activity. A portion of the present budget of $774,896 was historically allocated as legislated funding. Using resources on a revolving basis, the Graduate School Research Committee provides limited funding to selected faculty to initiate new research, primarily in the humanities and qualitative social sciences.

B. Great Lakes WATER Institute

Historically legislated funding of $102,800 for the Great Lakes Research Facility comprises a portion of the current funding for the new School of Freshwater Sciences (incorporating UW-Milwaukee Graduate School WATER Institute) to maintain the research facilities and enhance capabilities related to environmental and aquatic research. The School of Freshwater Sciences provides the infrastructure necessary for the research tenants. The School of Freshwater Sciences provides faculty and research staff members with research opportunities directly related to the UW-Milwaukee Strategic Plan. Tenants include the Center for Great Lakes Studies, the Aquaculture Institute (including United States Department of Agriculture Agricultural Research Service scientists), the NIEHS Marine and Freshwater Biomedical Sciences Center, a Wisconsin Sea Grant office, and two Wisconsin Department of Natural Resources units.

C. Research in Engineering and Technology

The historical allocation in 1985-86 of $54,000 for research in engineering and technology continues to be used to increase the ability of the College of Engineering and Applied Science to encourage collaborative research between UW-Milwaukee faculty and research employees in Milwaukee business and industry. The allocation is used to foster collaborative research on a wide variety of applied research projects. These projects, together with the Growth Agenda funds received in the 2007-09 Biennial Budget that were invested in new engineering faculty, are leading to marked increases in externally funded research expenditures.

D. Technology Transfer

Since receiving an allocation of $107,600 in 1983, the Graduate School continues to be dedicated to fostering collaborative research between UW-Milwaukee faculty and the Milwaukee area industrial community, transferring technology from the university into commercial processes and products, and developing the intellectual property (IP) of the faculty through patents and copyrights. Increasingly we are seeing IP successfully licensed to companies, including university spin-off companies. Funding is provided to support these activities through the Graduate School Office of Technology Transfer.

E. Milwaukee Research Plan

UW-Milwaukee received $220,600 in the 1980s to support the Milwaukee Research Plan. The School of Business Administration received $65,800 in 1985-86 and $90,600 in 1987-88 for its applied research services to the Milwaukee business community. The initial use of the funding was to develop centers to enable faculty and staff to increase the

competitive capabilities of business, primarily in southeastern Wisconsin, through teaching and research. The emphasis is on creating effective linkages between UW-Milwaukee and the business community. These activities continue through the SBA Bostrom Center for Business Competitiveness, Innovation and Entrepreneurship. The Center serves as an interdisciplinary applied research center to identify, evaluate, and disseminate techniques, strategies, philosophies, and policies that enhance the business competitiveness of firms, and the vitality of innovation and entrepreneurship.

The Graduate School uses funding to increase collaboration between UW-Milwaukee faculty and the Milwaukee business community. The initial allocation of $17,500 in 1987-88 was used for a collaborative research project sponsored by the UW-Milwaukee Center for Great Lakes Studies and Milwaukee County. Since that time, the Graduate School has utilized funds for a series of collaborative research projects between UW-Milwaukee and Milwaukee area companies. In addition, the Graduate School created the Advanced Analysis Facility in 1992 to serve the UW-Milwaukee scientific community as well as regional industry by providing UW-Milwaukee faculty expertise combined with a unique array of scientific instrumentation, which in combination can be effectively applied to solving applied research problems. The Advanced Analysis Facility is now part of the College of Engineering and Applied Sciences' Institute for Industrial Innovation (I3), which provides high level cooperation and assistance to regional manufacturing companies.

Finally, the 1987-88 Milwaukee Plan research allocation included $46,700 that is used by the College of Engineering and Applied Science to support faculty research in the areas of advanced/green automated manufacturing and energy research.

F. Research in Engineering

Historical funding of $86,400 was originally provided to facilitate research in the College of Engineering and Applied Science in the areas of design, development, and manufacturing of metal matrix composites. This scope has been expanded and the allocation is presently used to foster applied engineering activities throughout the College.

III. SYSTEMWIDE

A. Applied Research

This program provides funding for UW System institutions for research addressing specific problems faced by Wisconsin industries. Details regarding this program are provided in a separate biennial report to the State.

B. Distinguished Professors

This funding provides partial support for eighteen Distinguished Professor positions in the University of Wisconsin System. The GPR funding is matched by an equal or greater

match from businesses and/or other non-GPR sources. At the end of the 2009-10 fiscal year, this funding supported five professors at UW-Madison, seven at UW-Milwaukee, one at UW-Platteville, one at UW-La Crosse, with four appointment pending.

C. Solid Waste Experiment Centers, Noncompostible Landfill and Sludge.

This program provides funding to UW System institutions for research into the alternative methods for the disposal of solid waste. Details regarding these programs are provided in a separate annual report to the State.